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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
 (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P016766WO	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/GB2004/001549	International filing date (<i>day/month/year</i>) 08.04.2004	Priority date (<i>day/month/year</i>) 11.04.2003	
International Patent Classification (IPC) or national classification and IPC H04L9/32			
Applicant NEXTENDERS PRIVATE LTD. et al.			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 9 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> <i>(sent to the applicant and to the International Bureau) a total of 11 sheets, as follows:</i></p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. <p>b. <input type="checkbox"/> <i>(sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</i></p> <p>4. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Box No. I Basis of the opinion <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application 			
Date of submission of the demand 01.02.2005	Date of completion of this report 21.03.2005		
Name and mailing address of the International preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Cretaine, P Telephone No. +49 89 2399-8828		



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Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
 - This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:
 - international search (under Rules 12.3 and 23.1(b))
 - publication of the international application (under Rule 12.4)
 - international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

Description, Pages

1, 2, 4-20	as originally filed
3	received on 03.02.2005 with letter of 01.02.2005

Claims, Numbers

1-36	received on 03.02.2005 with letter of 01.02.2005
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Drawings, Sheets

16-6/6	as originally filed
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a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. The amendments have resulted in the cancellation of:
 - the description, pages
 - the claims, Nos.
 - the drawings, sheets/figs
 - the sequence listing (*specify*):
 - any table(s) related to sequence listing (*specify*):
4. This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
 - the description, pages
 - the claims, Nos.
 - the drawings, sheets/figs
 - the sequence listing (*specify*):
 - any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement.

1. Statement

Novelty (N)	Yes:	Claims	1-36
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-11,13-27,29-34
	No:	Claims	12,28,35,36
Industrial applicability (IA)	Yes:	Claims	1-36
	No:	Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

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Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1. Reference is made to the following documents:

D1 = US 2002/026583 A1 (BROWN RICHARD ET AL) 28 February 2002 (2002-02-28)

D2 = EP-A-1 081 890 (NIPPON TELEGRAPH & TELEPHONE) 7 March 2001 (2001-03-07)

D3 = WO 97/12460 A (DOCUMENT AUTHENTICATION SYSTEM) 3 April 1997 (1997-04-03)

2. **Independent claim 1:**

Field of the invention:

Distribution and authentication of electronic documents from a plurality of emitters to a recipient.

Prior art:

The document D1 is regarded as being the closest prior art to the subject-matter of the independent claims 1, 12, 19, 26, 28, 30 and 34 to 36. It shows (the references in parentheses applying to this document) a data processing system for distributing and authenticating documents from a plurality of parties ("sender", "sender's certificate") to a recipient data processing apparatus ("receiving fax machine"), the system comprising:

- a plurality of documents distribution devices (figure 7, "fax machines") each being operable to generate an original hash value from the content of an electronic file containing a document to be distributed ("digest of the document created by the sender using a hash algorithm")
- a data communications network ("communications network 158") operable to

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provide a facility to communicate each of the original hash values to the recipient data processing apparatus,

- the recipient data processing apparatus being operable:

- to receive the original hash values from each of the plurality of documents distribution devices via the communication network (figure 5; "the hash algorithm 84 is used to create a digest of the scanned document"),

- wherein the plurality of document distribution devices are operable:

- to communicate each of the respective electronic files to the recipient data processing apparatus ("a fax machine in a local bank that should only receive faxes from other remote branches of the same bank"),

- the recipient data processing apparatus being operable:

- to generate a comparative hash value from the content of the electronic file containing the document received from each of the document distribution devices (column 9, lines 6-11),

- to determine whether or not the documents received by the recipient data processing apparatus have changed from a comparison of at least one of the original hash values and the comparative hash values (column 9, lines 12-16).

Novelty :

The differences between the subject-matter of **claim 1** and the disclosure of D1 are that in claim 1, at the recipient device:

- the original hash values are communicated before a predetermined event
- the documents are communicated after the predetermined event
- an original super hash value is generated from the hash values corresponding to several received documents and communicated to the distribution devices,
- a comparative super hash value is generated from the comparative hash values
- the comparative super hash and the original super hash are compared to determine whether or not the documents have changed.

The subject-matter of **claim 1** is therefore new (Article 33(2) PCT).

Problem-Solution:

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These features solve the problems of providing the recipient and each of the distribution devices the assurance that none of the distribution devices have changed their documents and providing the distribution devices the assurance that the recipient has not access to the documents before the predetermined event.

The first problem is not addressed in D1 since no grouping of the fax machines in one recipient and several distribution devices is considered. Moreover none of the other cited prior give a hint for solving the problem; D2 does teach the use of superhash calculations but exclusively in a trusted third party.

Therefore the subject-matter of **claim 1** involves an inventive step (Article 33(3) PCT).

3. Dependent claims 2-11:

Claims 2-11 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

4. Independent claim 12:

The closest prior art is D1.

The only difference between the subject-matter of claim 12 and the disclosure of D1 is that the hash value is communicated **before** a predetermined event to the recipient and the document is communicated **after** this event to the recipient.

The technical effect of such a feature is that the recipient receives the hash value of the document a certain time before the document itself. The advantages provided by this technical effect are that:

- the recipient cannot view the document before the event;
- the distribution device cannot modify the document after the event without the modification being detectable by the recipient.

The objective problem to be solved by the alleged invention according to claim 12 may be therefore be regarded as how to provide notary functionalities in the system

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composed of a distribution device and a recipient.

Systems providing notary functionalities are well-known in the art; for instance document D2 discloses (see figure 11) a time stamping system, wherein a notarized time stamp for an electronic document is provided by a trusted server in response of a digest of the document (e.g a hash) communicated by a client (which is a distribution device for that document). The digest is therefore communicated instead of the document itself to the server for executing the notary function.

The skilled person, trying to provide notary functionalities to the system of D1 would thus, without the exercise of inventive skill, use the teaching of D2 that only the hash of the document is communicated to provide the notary function and therefore he would provide the distribution device with the capability of transmitting the hash separately from the document, e.g in advance or before a predetermined event. He would thus arrive at the subject-matter of claim 12.

Claim 12 therefore does not meet the requirements of Article 33(3) PCT.

5. Dependent claims 13-18:

Claim 13 contain the features of a plurality of distribution device associated with a super-hash function. The combination of these features, as discussed in paragraph 2 above, provide an inventive step to the subject-matter of claim 13.

Claims 14-18 are dependent on claim 13 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

6. Independent claim 19:

Claim 19 relates to a recipient data processing device which substantially contains the same technical features as the recipient device defined in the system of claim 1. Therefore claim 19 involves an inventive step.

7. Dependent claims 20-25:

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Claims 20-25 are dependent on claim 19 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

8. Independent claim 26:

Claim 26 substantially contain the same features as claim 1 but in terms of a method claim. Claim 26 does therefore involve an inventive step.

9. Dependent claim 27:

Claim 27 is dependent on claim 26 and as such also meets the requirements of the PCT with respect to novelty and inventive step.

10. Independent claim 28:

Claim 28 substantially contain the same features as claim 12 but in terms of a method claim. Claim 28 therefore does not involve an inventive step.

11. Dependent claim 29:

Claim 29 contain the features of a plurality of distribution device associated with a super-hash function. The combination of these features, as discussed in paragraph 2 above, provide an inventive step to the subject-matter of claim 29.

12. Independent claim 30:

Claim 30 substantially contains the same technical features as claim 1 in terms of a method claim. Claim 30 therefore involves an inventive step.

13. Independent claim 31:

Claim 31 relates to a computer program corresponding to any of claims 26-30. Claim 31 therefore involves an inventive step when not depending on claim 28.

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14. Independent claim 32:

Claim 32 relates to a computer program corresponding to any of claims 12-18 or 19-25.

Claim 32 therefore involves an inventive step, when not depending on claim 12.

15. Independent claim 33:

Claim 33 is a computer program type claim corresponding to any of claims 12-18, 19,25, 26-30. Claim 33 involves an inventive step when not depending on claims 12 and 28.

16. Independent claim 34:

Claim 34 contains substantially the same features as claim 1. Claim 34 therefore involves an inventive step.

17. Independent claims 35 and 36:

These claims do not contain any features which could assess novelty vis-à-vis D1, the references to the description and drawings being no technical features in themselves.

18. Remarks:

Although claims 1, 12, 19 and 34, resp. claims 26, 28 and 30, resp. claims 31,32,33, have been drafted as separate independent system claims, resp. method claims, resp. computer program claims, they appear to relate effectively to the same subject-matter and to differ from each other only with respect of the terminology used for the features of that subject-matter. The aforementioned group of claims therefore lack conciseness and as such do not meet the requirements of Article 6 PCT.